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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/994,844	11/28/2001	Per-Olof Brandt	032927-025	8450

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EXAMINER

NGUYEN, LINH V

ART UNIT

PAPER NUMBER

2819

DATE MAILED: 01/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/994,844

Applicant(s)

BRANDT, PER-OLOF

Examiner

Linh V. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 February 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11/28/01 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 – 3, 8 – 10, 13, 14 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Ho et al. U.S. patent No. 4305043.

Regarding to claim 1, Fig. 1, and 2, Ho et al. disclose a hybrid coupler having four ports and capable of coupling radio frequency signals having a certain frequency from at least one port to at least one other port, characterized in that the hybrid coupler is implemented as a differential coupler arranged to couple differential radio frequency signals.

Regarding to claim 2, and 3, Ho et al. further disclose wherein the hybrid coupler, characterized in that the hybrid coupler is implemented in a micro strip line technology.

Regarding to claims 8 and 17, Fig. 1, and 2, Ho et al. disclose an amplifying circuit for radio frequency signals having a certain frequency and thus a certain wavelength, said circuit comprising at least: a first hybrid coupler (17, 27) having an input port (Port1) to which radio frequency signals can be applied, an isolated port (Port 4), a first output port (Port2), and a second output port (Port3), and being arranged for dividing a signal applied to the input port into a first signal component to the first output port and a second signal component to the second output port, a first amplifier (11)

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having an input port and an output port, said input port being connected to the first output port of the first hybrid coupler, a second amplifier (12) having an input port and an output port, said input port being connected to the second output port of the first hybrid coupler, and a second hybrid coupler (18, 28) having a first input port (Port 1) connected to the output port of the first amplifier; a second input port (Port 4) connected to the output port of the second amplifier, an isolated port (Port 2), and an output port connectable to an output load impedance (Port 3), and being arranged for combining signals applied to the first input port and the second input port to the output port, said first and second hybrid couplers and said first and second amplifiers providing a first and a second path for radio frequency signals from the input port of the first hybrid coupler to the output port of the second hybrid coupler, said first path comprising the first amplifier and said second path comprising the second amplifier and wherein the total electrical lengths of the two paths are substantially identical (Fig. 3, 4, and 5), and the electrical length from the input port of the first hybrid coupler to each of the input ports of the first and second amplifiers differs by a quarter of a wavelength for said radio frequency signals (Col. 5 line 41), characterized in that said hybrid couplers are implemented as differential couplers arranged to couple differential radio frequency signals, and said amplifiers are differential amplifiers.

Regarding to claims 9 and 10, wherein the amplifier characterized in that said first and second hybrid couplers are implemented in a micro strip line technology (Fig. 1, 2).

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Regarding to claim 13, wherein the amplifier characterized in that said first and second hybrid couplers are quadrature couplers, such that said first and second signal components on the output ports of the first hybrid coupler are in quadrature to each other, and signals in quadrature to each other applied to the two input ports of the second hybrid coupler are combined to one signal at its output port (Col. 1 line 59).

Regarding to claim 14, wherein the amplifier characterized in that said first and second hybrid couplers are line-coupled hybrids (Fig. 1, Fig. 2).

3. Claims 1, 4 - 7, are rejected under 35 U.S.C. 102(b) as being anticipated by Seidel U.S. patent No. 3911372.

Regarding to claim 1, Fig. 1, Seidel disclose a hybrid coupler having four ports and capable of coupling radio frequency signals having a certain frequency from at least one port to at least one other port, characterized in that the hybrid coupler is implemented as a differential coupler arranged to couple differential radio frequency signals.

Regarding to claim 4. Seidel further discloses wherein the hybrid coupler, characterized in that it is a 3 dB coupler, such that power of said frequency supplied to one port is split substantially equally between two other ports, while the remaining port is substantially isolated from the other ports.

Regarding to claims 5 and 6, Seidel further discloses wherein hybrid coupler characterized in that it is arranged to split the power between the two other ports in such

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a way that the signals provided at these ports are either in phase or out of phase with each other (Col. 2 line 68).

Regarding to claim 7, Seidel further discloses wherein the hybrid coupler characterized in that it is a line-coupled hybrid (Fig. 3).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 11, 12, 15, and 16, are rejected under 35 U.S.C. 103(a) as being unpatentable over Ho et al. as applied to claim 8 above, and further in view of Seidel.

Regarding to claim 11, Ho et al. does not explicitly disclose wherein in that said first and second hybrid couplers are 3 dB couplers. However 3dB coupler is a well knows art and conventional for equally split power, which has taught by Seidel et al. as applied to claim 4 above. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Hybrid coupler of Ho et at with 3 dB Hybrid coupler of Seidel for the purpose of providing equally power divided ratio.

Regarding to claim 12. Ho et al. does not teach wherein the first and second hybrid couplers are in-phase couplers. However, in-phase or out-of-phase is a matter of design choice, as Seidel as has applied to claims 5 – 6 above has suggested the hybrid

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coupler is either in-phase or out-of-phase coupler. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the out-of-phase coupler of Ho et al. to obtain the in-phase coupler according from the teaching of Seidel.

Regarding to claims 15 and 16. Ho et al. does not explicitly disclose wherein a mobile telephone comprising his amplifying circuit. However that is an intended of use, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claim apparatus from prior art apparatus satisfying the claimed structural limitations. Ex parte Masham, 2 USPQ2d 1647 (1987)

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh Van Nguyen whose telephone number is (703) 305-1934. The examiner can normally be reached from 8:30 - 5:00 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Michael Tokar can be reached at (703) 305-3493. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-5841 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-6251.

LVN

January 10, 2003.



Michael Tokar
Supervisory Patent Examiner
Technology Center 2800